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PTO/SB/21 (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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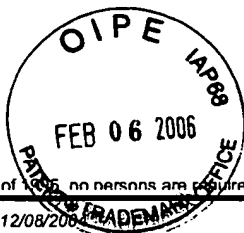
<b>TRANSMITTAL FORM</b> FEB 06 2006 (to be used for all correspondence after initial filing)	<b>Application Number</b>	10/815,727	
	<b>Filing Date</b>	April 2, 2004	
	<b>First Named Inventor</b>	John D. Brennan	
	<b>Group Art Unit</b>	1641	
	<b>Examiner Name</b>	Unsu Jung	
<b>Total Number of Pages in This Submission</b>		<b>Attorney Docket Number</b>	3244-127

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form  <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment / Response  <input type="checkbox"/> After Final  <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input checked="" type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/Incomplete Application  <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application)  <input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert to a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <b>Letter to the Commissioner</b>
<b>Remarks</b>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Patricia Folkins, Reg. No. 51,379 BERESKIN & PARR
Signature	<i>P. Folkins</i>
Date	February 3, 2006

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date: <input type="text"/>			
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PTO/SB/17 (12-04)

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Effective on 12/08/2006

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

# FEE TRANSMITTAL

## For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)

180.00

**Complete if Known**

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Examiner Name	Unsu Jung
Art Unit	1641
Attorney Docket No.	3211-127

**METHOD OF PAYMENT** (check all that apply)☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_☐ Deposit Account Deposit Account Number: **022095** Deposit Account Name: **Bereskin & Parr**

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	<b>Multiple Dependent Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
- 20 or HP =	0	x	=	0.00		
HP = highest number of total claims paid for, if greater than 20						
<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>			
- 3 or HP =	0	x	=	0.00		
HP = highest number of independent claims paid for, if greater than 3						

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<b>Total Sheets</b>	<b>Extra Sheets</b>	<b>Number of each additional 50 or fraction thereof</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
23 - 100 =	0	/ 50 =		0

(round up to a whole number) x =**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other: Information Disclosure Statement

180.00

**SUBMITTED BY**

Signature	<i>P. Folkins</i>	Registration No. 51,379 (Attorney/Agent)	Telephone 416-364-7311
Name (Print/Type)	Patricia Folkins		Date February 3, 2006

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## Privacy Act Statement

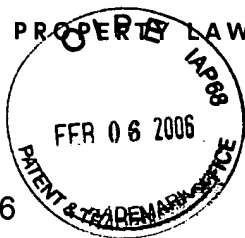
The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

# Bereskin & Parr

INTELLECTUAL PROPERTY LAW



February 3, 2006

Patricia Folkins B.Sc., Ph.D. (Chem)  
416 957 1683 pfolkins@bereskinparr.com

Your Reference: 10/815,727  
Our Reference: 3244-127

## INFORMATION DISCLOSURE STATEMENT

The Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
U.S.A.

Dear Sirs:

**Re: United States Patent Application No. 10/815,727**  
**For: METHOD OF IMMOBILIZING MEMBRANE-ASSOCIATED MOLECULES**  
**Filed: April 2, 2004**  
**Applicant: John D. Brennan et al.**

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In accordance with 37 CFR 1.97 and 1.98, and in recognition of the duty of disclosure set forth in 37 CFR 1.56, Applicants hereby submit an Information Disclosure Statement on Form PTO-08a containing a listing of patents and other publications of which Applicant is aware. Further, in accordance with the waiver by the Office of the requirement under 37 CFR 1.98(a)(2)(i) for applications filed after June 30, 2003, this Information Disclosure Statement is filed without copies of the cited U.S. Patents.

The Examiner is requested to indicate consideration of these documents by initialing the appropriate column.

Applicants reserve the right to contest the applicability of any of these documents as prior art against the subject application. If the Examiner has any questions concerning this Information Disclosure Statement, he/she is requested to contact the undersigned. Entry of the enclosed Supplemental Information Disclosure Statement is believed to be in order and is respectfully requested.

The government fee of \$180.00 is included in our cheque, in respect of the fee requirements provided in 37 CFR 1.17(p).

Please charge any deficiency or credit any overpayment to our deposit account No. 02-2095.

02/07/2006 HAL111 00000103 10815727

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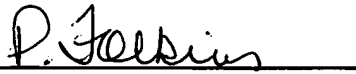
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Manulife Corporate Park, 6733 Mississauga Road, Suite 600, Mississauga, Ontario L5N 6J5  
Tel: 905.812.3600 Fax: 905.814.0031 [www.bereskinparr.com](http://www.bereskinparr.com)

TORONTO MISSISSAUGA WATERLOO MONTREAL

Respectfully submitted,

**JOHN D. BRENNAN ET AL.**

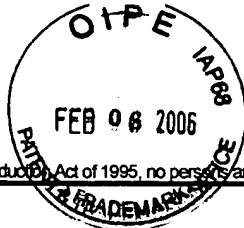
A handwritten signature in cursive script, appearing to read "P. Folkins", is written over a horizontal line.

Patricia Folkins

Registration No. 51,379

/mj

Encl.



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 3

**Complete if Known**

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-6,468,759	10-22-2002	CHARYCH	
		US- 6,306,598	10-23-2001	JONAS	
		US- 6,284,163	09-04-2001	STOWELL	
		US-			
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**FOREIGN PATENT DOCUMENTS**

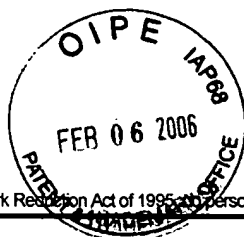
Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
		WO9836263	08-20-1998			

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 3

**Complete if Known**

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	1.	IQBAL, G., "Bio-Doped Nanocomposite Polymers: Sol-Gel Bioencapsulates", Chemistry of Materials, American Chemical Society, 2001, pp. 3404-3421, Vol. 13, No. 10.	
	2.	BESANGER, T., et al., "Characterization of Fluorescent Phospholipids Liposomes Entrapped in Sol-Gel Derived Silica", J. Phys. Chem. B., 2002, pp. 10535-10542, Vol. 106, No. 41.	
	3.	GILL, I., et al., "Encapsulation of Biologicals Within Silicate, Siloxane, and Hybrid Sol-Gel Polymers: An efficient and generic approach", Journal of the American Chemical Society, 1998 pp. 8587-8598, Vol. 120.	
	4.	WEETALL, H., et al., "Bacteriorhodopsin Immobilized in Sol-Gel Glass", Biochimica et Biophysica Acta, 1993, pp. 211-213, Vol. 1142, No. 1.	
	5.	BESANGER, T., et al., "Ion Sensing and Inhibition Studies Using the Transmembrane Ion Channel Peptide Gramicidin A Entrapped in Sol-Gel-Derived Silica", Anal. Chem., 2003, pp. 1094-1101, Vol. 75.	
	6.	BESANGER, T., et al., "Entrapment of Highly Active Membrane-Bound Receptors in Macroporous Sol-Gel Derived Silica", Anal. Chem., 2004, pp. 6470-6475, Vol. 76.	
	7.	BRENNAN, J.D., "Optimizing Sol-Gel Entrapped Proteins for Bioanalytical Applications", Abstract, CSC Meeting, May 2004, London, Ontario.	
	8.	CRUZ-AGUADO, J., et al., "Sugar-Functionalized Silica Provides Enhanced Activity and Stability to Entrapped Enzymes", Abstract, CSC Meeting, May 2004, London, Ontario.	
	9.	RUPCICH, N., et al., "Development of DNA Aptamer-Microarrays Based Sol-Gel Derived Materials", Abstract, CSC Meeting, May 2004, London, Ontario.	
	10.	BESANGER, T.R., et al., "Entrapment of Highly Active Nicotinic Acetylcholine Receptor in Macroporous Sol-Gel Derived Materials", Abstract, CSC Meeting, May 2004, London, Ontario.	
	11.	SUI, X., et al., "Effect of Covalently Tethered Sugars on the Properties of Enzymes Entrapped in Sol-Gel Derived Silica", Abstract, CSC Meeting, May 2004, London, Ontario.	

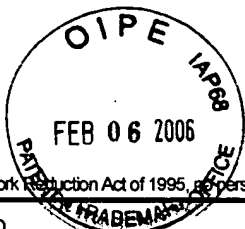
Examiner Signature		Date Considered	
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 3 of 3

**Complete if Known**

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	12.	ZHANG, Z., et al., "The Biporous Structure of Monolithic Silica Columns Containing Entrapped Proteins", Abstract, Conference in Mexico, August 2002.	
	13.	CHEN, Y., et al., "Syntheses of Sugar-Based Coupling Agents and Their Use in Preparing Protein-Friendly Silica Surfaces", Abstract, Conference in Mexico, August 2002.	
	14.	BESANGER, T., et al., "Toward the Entrapment of Stable Transmembrane Proteins: Characterization of Gramicidin Entrapped into Sol Gel Derived Silicate Materials", Abstract, 85 <sup>th</sup> CSC Conference, Vancouver, BC, June 2002.	

Examiner Signature		Date Considered	
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